



ON

HERPES PROGENITALIS, ESPECIALLY IN WOMEN.

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I DO not think that I can more appropriately contribute to the pages of the JOURNAL OF CUTANEOUS AND VENEREAL DISEASES than by continuing a discussion which took place at the fourth annual meeting of the American Dermatological Society, at Newport, Aug. 31 to Sept. 2, 1880. Dr. White read Dr. Greenough's paper on herpes progenitalis, in which occurs the following passage on the distribution of this affection, so common in both sexes :

"Sex.—Almost all writers state that the female genital organs may be the seat of herpes progenitalis, but I find no case reported. I have never seen but one, in that there were five or six ulcerations on the inner surface of one of the nymphæ, but I do not feel at all sure that it was not more properly a condition analogous to balanitis. There were considerable local congestion and œdema, and in three days the part was normal." In the following discussion, Dr. Bulkley remarked "that he was much interested in the question of the occurrence of herpes progenitalis in females, especially the statement of its non-existence. He had certainly met with it in women more than once, and was not at all prepared to

receive the statement, that the writer has not seen it. He requested the views of other members upon the subject."

Dr. Duhring, replying to Dr. Bulkley's questions, said that he had never encountered a case of herpes progenitalis in the female.

Dr. White suggested that its rare occurrence in females might be explained by the fact that it may pass unnoticed, as it does not occasion much annoyance, and being in a less exposed situation, is much less likely to attract attention.

Dr. Heitzmann said: "that in the large atlas of Hebra, there was a good representation of herpes progenitalis in the female. It was not a case of herpes zoster."

After reading the above quotation from Dr. Greenough, I was much astonished, because within four years I had met with at least two hundred cases, and possibly more, of herpes progenitalis in females. However, my astonishment was increased by the assertions of Dr. Duhring, who, despite his immense experience, claimed never to have met with a single such instance. Considering all this, it seems to me not at all unimportant to draw attention to this subject in this JOURNAL, at the same time attempting an explanation of the striking difference of opinion respecting the frequency of its occurrence.

Geographical and national differences as an explanation I discarded at once; not only because the experience of gynecologists in large practice here (Hamburg) coincided with that of my American colleagues, but also because my experience in private practice during the last few years was the same. It was therefore plain that my considerable experience of herpes progenitalis in females was owing to an essentially special field of observation; and it of necessity followed that difference of opinion here is due to the difference existing in the character of the clinical material observed. My experience referring to this subject was derived from a four-years' service as official examiner of puellæ publicæ. I am sure that every physician who has control of such individuals in a hospital, wherever it be, or who is concerned in the surveillance of prostitution in cities, will have an experience at least equal to mine in this disease; whilst, on the other hand, dermatologists and gynecologists everywhere, basing their opinions on the results of private practice, will hold this affection to be rare.

Preferring to substitute official statistics rather than my own, I have arranged the following statistical table¹ from the annual reports of the Hamburg General Hospital for the years 1878-1881, inclusive. Into the female syphilitic department were admitted:

¹ Compiled by Dr. Engel Reimers, Physician in chief.

	1878	1879	1880	1881
Total number of women.	1,357	1,382	1,459	1,358
Of these affected with :				
Blennorrhœa urethræ.....	222	301	292	340
Blennorrhœa vaginæ.....	123	200	268	327
Blennorrhœa uteri.....	33	34	76	122
Blennorrhœa gland. Barth.....	37	75	89	86
Eczema vulvæ.....	15	44	72	56
Herpes lab. pudend.....	36	89	86	75
Herpes perinæi et ani.....	28	37	35	35
Herpes vaginæ.....	2
Herpes progenitalis.....	64	126	121	112

To a number of conclusions which may be inferred from this table I shall recur later; for the present it is clear that the cases of herpes during these four years amounted to 4.71 per cent, 9.12 per cent, 8.32 per cent, 8.25 per cent, of all cases of disease admitted to the female syphilitic section of the hospital, *i. e.*, a constant average ratio larger than what is so important respecting gonorrhœal propagation, blennorrhœa of the cervix (resp. corpus) uteri and the gland. Bartholinii.

Von Bärensprung had already said (*die Gürtel-Krankheit, Charité-Annalen*, B. 9, Heft 2, p. 65, 1881), who, as is known, looked upon herpes progenitalis and herpes labialis as being rudimentary forms of zoster eruptions: "Exactly the same affection is observed, *perhaps still more frequently, in women* (herpes vulvæ); its usual seat here are the labia majora, on the cutaneous and mucous surfaces of which it occurs with the same modifications as on the layers of the prepuce in man. At times some groups of vesicles are situated also at the side, in the plica femoris. But a fact to which hitherto no attention has been called¹ is, that an obviously quite analogous exanthem formation occurs not very rarely within the vagina, and especially on the vaginal portion. It is dependent on blennorrhœa, and in its course are also formed circular erosions with vivid red borders which may easily be mistaken for soft chancre. But they are sufficiently differentiated from the latter by their superficial, undestructive character, their smooth bottom, and their non-inoculability. Moreover, after a few days they heal up as completely as the herpetic vesicular eruptions often simultaneously present on the external genitals."

Von Bärensprung bases these remarks on observations derived from an experience similar to that which fell to my lot at the Hamburg General

¹Von Bärensprung had evidently overlooked that Duparque had already studied herpes portionis vaginalis in 1837.

Hospital; and I am sure the statistics of similar institutions in America will be similar to those given above.

Under these circumstances it were remarkable if herpes mulierum had been closely studied and described only in Germany. In France, where prostitution was early under medical surveillance, and where excellent syphilographers abound as nowhere else, herpes progenitalis early attracted attention, and was described. The literature of herpes vulvæ is not so scanty as one might easily be led to believe from Greenough's assertion.

The following passages I take from the latest thesis on this affection, by Bruneau (*Etude sur les éruptions herpétiques qui se font aux organes génitaux chez la femme*, Paris, 1880), which had already been observed by Astruc in the first half of the last century, who described herpes occurring in the female (*De morbis veneris*, T. i., l. c. iv., pp. 361-4).

"Solent . . . hydatides emerge sul bullæ aquosæ, et crystallinæ quæ numero magnitudine prominentia variæ, modo summum glandis apicem, modo coronam, modo dorsum, modo latera occupant . . . solent autem isticis modi hydatides in femines efflorescere; potissimum in vulvæ labiis nymphisve, sive pterigonatis clitoridi clitoridisque preputio, et carunculis myrtiformis."

Alibert (*Monographies des Dermatoses*, 2d ed., 1835, T. i., p. 147) calls herpes progenitalis, olophlyetides progéniale, and says:

"It locates itself not only on the prepuce, but also at the introitus vaginæ; if we have fewer opportunities of observing it there, it is on account of the natural modesty of the sex, for preputial and prevaginal olophlyetide are of an absolutely equal element."

Thus we find in France the comparative status of herpes progenitalis in men and women recognized a hundred years before herpes in general had received serious attention. In France, herpes vulvæ early became the subject of a series of monographs.

Legendre published an essay on herpes progenitalis, with three cases, based on his experience as physician to the Lourcine (*Mémoire sur l'herpès de la vulva*, *Arch. Gén. de Méd.*, 1853, vol. ii., p. 171).

More recently Fournier, through his pupils: Dreyfous (*Contribution à l'étude de l'herpes vulvaire*, *Gaz. hebdom.*, 1876), and Labouré (*Thèse de Paris*, 1879), and two lectures of his own (*Gaz. des hôpitaux*, 1878, pp. 890-950), stimulated the clinical study of this subject, and added much towards making opinion concerning it clearer.

Already in 1837, Duparquet (*Traité théorétique sur les ulcérations organiques simples et cancéreuses de la matrice*) parenthetically described herpes of the portio vaginalis. Gueneau de Mussy (*Clinique de l'Hôtel Dieu*) studied this subject more closely, and Rollet (*Annales de Dermatologie et Syphiligraphie*, 1869) figured a "blennorrhagic ulceration" of

the collum uteri, also attributed to true herpes by Bruneau. After Mauriac had more accurately described herpes as it occurs in man, which he called herpes neuralgique, in a series of lectures (*Gaz. des Hôpitaux*, 1876), and Tullier (*Traité pratique des Maladies vénériennes*, 1879) soon after differentiating herpes progenitalis into two kinds, the ordinary and the neuropathic, Bruneau, a pupil of Brouardel, Professor of Medical Jurisprudence, published (Thesis, Paris, 1880) an extended series of herpes cases occurring in women which, because of the great constitutional disturbance, the neuralgic symptoms, and extensive distribution of the herpetic eruption fail to correspond with the usual description of ordinary herpes, and must, in my opinion, be looked upon as zoster genitalis. Bruneau calls this "large" form "confluent genital herpes," in contradistinction to "discrete genital herpes," the ordinary form, which alone had been described by his predecessors (Legendre, Fournier, etc.).

Considering the unanimity of experience at the Hamburg Hospital, the Berlin Charité, and the Parisian Lourcine, there can be no doubt that *in women of a particular class herpes progenitalis is a very frequent malady*. Respecting the *absolute* frequency with which the trouble occurs among this class of women, the above statistical table cannot be turned to account without comment, any more than corresponding statistics of herpes occurring in the male syphilitic department can.

Into the male department for syphilis were admitted:

	1878	1879	1880	1881
Total number of men.....	634	653	768	795
Suffering from gonorrhoea.....	271	259	309	257
Herpes progenitalis....	4	9	4	..

The number of cases of herpes treated at the Hamburg Hospital syphilitic male department is quite small as compared with the number in the female syphilitic department, almost as small as met with at the Boston Dispensary (see Greenough), and naturally enough this is only proof of what might be expected, namely, that men of the poorer classes affected with herpes only exceptionally apply at the hospital for relief. Moreover, I am convinced that in men of better condition herpes is commoner, and for reasons which shall be dwelt upon when I shall speak of the etiology of this affection. The majority of herpes in the male will be met with in private practice, and, without being much mistaken, one

will, as Greenough has done, base one's calculations of its absolute frequency in males hereon.

The conditions affecting women are altogether different. The number of herpes cases admitted into a hospital depends altogether on the instruction controlling the city medical inspectors' examinations. If they are requested to send all puellæ with a genital affection to a special hospital, then the semi-weekly examinations will secure nearly, and one might say all, cases of herpes developing, because the shortest course of this affection is not less than three or four days, and, moreover, because the trouble is not easily overlooked.

Under these circumstances, when the number of herpes cases treated at the hospital is compared with that seen by the city inspectors, quite correct statistics of herpes vulvæ in puellæ can be established. But when, as is usually the case everywhere, it is left to the inspecting physician's judgment to incarcerate or not, depending on the severity of the disease and its communicability, or the patient's benefit, it is evident many cases will be lost to the hospital, and its statistics in so much wanting. Herpes is recognized as being one of the most benign of affections both to the patient and her public. Only when herpes has developed into an erosion can it become dangerous to all concerned, in that it then, like every other wound on the body, will make syphilitic inoculation easy, and can, as such, even before the eye can see the change, favor the propagation of venereal sores. In this respect, then, as a prophylactic measure, it would be safe to incarcerate all those affected with herpetic erosions, especially uncleanly individuals, whether or not these erosions afterwards assume a normal course. Practically, only herpetic erosions will be reported by the medical inspectors, because they need be diagnosed from ordinary venereal ulcers. And even of these a number will remain undiscovered, especially when they affect, as I shall afterwards show, puellæ who are thus troubled with every menstruation. Incarceration would keep these individuals in the hospital half the year, which, considering the benignity of herpes progenitalis, would be exercising an unjust restraint. According to my experience, it is thus no exaggeration to say that the number of cases of herpes, in Hamburg at least, is *double the hospital number*, and probably even greater. After what has been said, we may conclude that the number of cases of herpes occurring in this class of the female population (puellæ publicæ) averages about two hundred cases a year, which, in proportion to the number of prostitutes under strict surveillance (usually about eight hundred) amounts to about twenty-five per cent, in reality no great, but perhaps for my American colleagues an astonishing number, and which considerably exceeds the percentage (seventeen per cent) of men affected, as noted by Greenough.

Thus far we have attained only an approximate view of the frequency

with which herpes progenitalis occurs in a peculiarly susceptible special class of women. This result does not apply to women in general, but, on the contrary, herpes progenitalis is in fact a rare affection. Otherwise it were incomprehensible that gynæcologists in extensive practice meet with it rarely or not at all, and that text-books on gynæcology say nothing about this affection; and my experience of late years during which I have seen a considerable number of venereal genital maladies in married women coincides with theirs, I not having met with a single instance. It is now evident that the conclusions arrived at by members of the American Dermatological Society are correct, in so far as the *general rarity* of herpes vulvæ is concerned; but, on the contrary, the conclusion that *women as such are therefore less susceptible of being thus affected* is erroneous. Indeed, herpes progenitalis is found more frequently in women *who are only distinguished by their vocation* than in men. We may therefore say only this much: *that women are just as susceptible to herpes as men are; there is no immunity from herpes for the female sex.* On the contrary, the exciting cause which induces virile herpes is usually absent in women; but when this is present (as in *puellæ publicæ*) herpes is frequently found; for woman *herpes is so to say a vocation-disease.*

The conditions to which women are subject are so extremely favorable to gaining a clearer view of the etiology of herpes generally that I cannot omit directing special attention to this point. Fournier has written on the etiology of herpes in a manner that leaves little to be desired. For good clinical reasons, he speaks of the etiology of herpes labialis and progenitalis, and of herpes preputii and vulvæ together; whilst other authors, notably Legendre and Bruneau, attempt a special etiological characterization of herpes vulvæ. However, considering the close general relationship of these herpetes, their description by Fournier surpasses that of other authors, even Greenough's. Etiologically, Fournier distinguishes two groups: 1st, accidental, and 2d, constitutional herpes. The first group is still further divided into three groups: 1st, herpes following injuries and surgical operations. Attempted rape has caused the development of herpes vulvæ, and often has occasioned a legal differential diagnosis on this account (see Legendre). 2, Herpes *blennorrhagique*, forming the chief contingent of male and female herpes progenitalis. 3d, Herpes accompanying chancre, an extremely rare form; but I have seen it in both sexes.

In the conclusion, Fournier gives a general summary of his views:

"It is in fact merely the *general disposition* which governs everything, all other causes are but accessory; it is absolutely superfluous to try to master herpes by making the *supposed* causes disappear."

I cannot banish the notion that the so-called constitutional relapsing

herpetes, especially herpes progenitalis, may be explained as Gerhardt has explained herpes febrilis, by the existence of *recurring local disturbances*. Considering the immense difference of its occurrence in prostitutes and married women, as has been shown, it necessarily follows that the *great chief cause of herpes progenitalis* is to be looked for in the *excessive genital irritation* to which prostitutes are exposed; all other causes are only secondary. Fournier (p. 892) admits the importance of this factor without reserve: "It is coition alone, independent of any liquids (catamenia, leucorrhœa, etc.), which provokes the eruption;" but only in so far as earlier observers (Legendre) looked upon want of cleanliness and decomposing secretions as direct causes of herpes. After all coition is for him only a primary exciting cause, individual predisposition being the root of the affection. I, on the contrary, believe that this obscure and negative etiological prodigy can be dispensed with, and something more positive supplied to take its place. Furthermore, the objection that venereal diseases, to which prostitutes are specially liable, are causes of herpes may be denied. This idea is put prominently forward by Greenough who says that all men affected with herpes had had some venereal disease, although recovered from years before, and he seeks corroboration for this view in similar observations made by Doyon. Contrary to this, I must affirm that, according to my experience, first, in married women affected with blennorrhœa, chancre, or syphilis, herpes is rarely seen; secondly, herpes is as often met with in prostitutes not troubled with venereal disease as in those who are. I recollect a case of habitual menstrual herpes where venereal disease was never present at the same time. However, to assert that a blennorrhœa contracted and recovered from in youth, will give rise to herpes, or, as Greenough prudently avers, at least gives rise to the herpetic disposition, in a married man, years afterwards, is a hyperspeculative assumption not worth serious mention, since more palpable causes are not wanting; and Greenough himself, in another place, says: "The influence of the venereal act as the immediate cause of herpes progenitalis has been mentioned, but I do not think it has been given the importance that it deserves."

The only affection which is really so common a complication as to make an etiological dependence in this respect undeniable, is gonorrhœa and its complications, that is, those venereal affections, coition aside, which necessarily give rise to intense congestion of the parts. This local congestion and the great vasomotor irritation of the genitals seem to me to form the true connecting link between gonorrhœa and herpes gonorrhœicus, as in the case of herpes post coitum.

In prostitutes, genital irritation and acute or chronic blennorrhœa often exist together as factors in the development of "herpetic genital fluxion." This general view, obtained from observation of herpes oc-

curing in prostitutes, borne in mind, other etiological peculiarities relating to herpes progenitalis become clear. As there are men who habitually are attacked by herpes after every act of coition, so, too, there are prostitutes who have an eruption of herpes every time they menstruate. I have had abundant opportunity of observing such individuals. These people were well-acquainted with the nature of their malady, even better than many a physician may be. They dreaded every new medical inspector, because he generally attempted their incarceration until the nature of the trouble convinced him of his error by its relapses. In some, this trouble was disposed to drag on for years, whilst in others it recurred only with several menstruations to return no more. I am pleased to note that this habitual menstrual herpes had also received attention from French writers generally. Legendre says (p. 181) :

“It thus happens that some women are attacked, one or two days prior to every menstruation, by an eruption of herpes. . . .”

Fournier also mentions menstrual herpes; and Bruneau says (p. 42) :

“The herpetic eruption frequently coincides with every menstrual epoch, whence the name, *bouton derègle*, which has been given to it.”

Less frequently pregnancy and the puerperal state also induce the disposition to herpes progenitalis, which is readily explained from our point of view. Respecting the trouble in these conditions, I depend on the experience of a colleague who has observed herpes in the puerperal state; and Bruneau mentions two essays relating to this part of the subject which, unfortunately, I could not consult: A. Martin, *Herpes u. Erythem mit Scarlatina bei Wöchnerinnen. Zeitsch. f. Geburts- und Frauenkrankheiten*, B. ii., p. 225, 1875; and Ingmann, *Herpes der Schwangerschaft, Petersburger Med. Wochenschrift*, 1876. Bruneau must also be given credit for having shown that in women suffering with chr. metritis, cervicitis, ovaritis, and parametritis, every herpetic eruption is invariably preceded by increased sensibility and signs of heightened congestion of the pelvic organs. He furthermore noticed that cervical leucorrhœa, so common in those afflicted with herpes, was aggravated during the eruption. Facts like these prove that every herpetic eruption depends on a heightened congestion of the pelvic organs.

We may now satisfactorily attend to the other so-called causes of herpes, such as uncleanness, decomposing secretions, hot weather, obesity (Legendre, Bruneau), rape, impeded penile erection, due to an over-long prepuce (Greenough), all of which induce an eruption of herpes for reasons the same as those common to excessive venery, menstruation, and pregnancy, namely, *excessive congestion of the genital organs*. And this is universally found to be the true cause and basis of herpes progenitalis.

Perhaps the reader will excuse me for trespassing yet awhile on his

patience in order that the material offered by herpes in woman may be still further utilized in elucidating several other points connected with herpes progenitalis.

The diagnosis of herpes vulvæ is not difficult, but none the less important with reference to the statistics given above. While the vesicles are still intact, the diagnosis is readily made even by the unpractised at a distance. They cannot be mistaken for anything else, being yellowish, translucent, and arranged in clusters. When the epidermis has given way, and superficial, partially crusted-over erosions present, the surface must often first be carefully cleansed before we can see whether the trouble is a superficial wound, a burn, an eczema, a chancre, or herpes. Herpetic erosions are well defined, as though punched, superficial and flat, and of a bright reddish hue; they are discrete, coalescent, or confluent. In any case, as Fournier first remarked, the clean, sharply defined contour, and crescentic (polycyclical) arrangement make herpes easy to diagnose.¹

It will, therefore, not be assumed that the above statistics are at fault because of mistaken diagnoses. To prove that attention was paid to eczema (intertrigo) it received mention in the first statistical table given above. It is also evident that twice as many prostitutes were sent to the hospital with herpes than with eczema of the genitals. Moreover I hold, contrary to text-books, that herpes progenitalis in man cannot be confounded with balanitic erosions.

I know only two affections which, because of their form and rarity, may be mistaken for herpes progenitalis, but then only during the first few days of their existence. Chancres in the male now and then occur in the inner surface of the prepuce, are benign in appearance and very slowly involve the surrounding tissues, and these at first sight look like herpetic erosions. They are the chancres of Tyson's glands which develop as inconsiderable epithelial proliferations in small inconstant contiguous groups of sebaceous glands. Usually a group of from four to six neighboring glands are attacked. The round follicular openings are eroded, abnormally patulous, and acutely hyperæmic, so as to give the impression of a herpetic erosion. If a simple dusting powder is prescribed for this affection, it drags on, and the typical herpetic course being wanting, slight periglandular induration becomes manifest, succeeded by glandular disintegration and confluent, rapidly spreading ulceration, all of which impress the physician that he is dealing with a soft chancre, the course of which was protracted by its unusual seat. These exceptional cases, from the favorable prognosis they may elicit, are apt to discredit

¹ Observation xiii. of Bruneau, despite the absence of the polycyclical contour, was diagnosed as a probable herpes. It seems to me to have been a case of chancre or traumatism.

the physician's ability. These glandular ulcers are rarely so close together as a group of herpetic vesicles, and touch, aided by a magnifying lens, will make a mistake in diagnosis impossible. It is quite possible for these glands to become affected with a venereal pseudo-herpes on the labia minora of women, but I cannot recall such a case. Broad condylomata occurring on the anterior edge of the labia minora now and then are mistaken for herpes labialis min. This is due to the tendency of the labia to œdema, and especially apt are the thin edges to assume circumscribed localized, indurated œdemas when these lips are the seat of inflammatory affections. The free borders of the nymphæ minora are less frequently the seat of soft chancres than of recurring herpes, especially menstrual herpes; but on the other hand, they are the favorite seat of frequently recurring papular and papulo-eroding secondary syphilides. The accompanying œdema makes a mistake in diagnosis easy by giving these different affections a similarity of appearance. During the acute stage of both affections, the œdema presents knob-shaped intumescences; when the œdema has diminished, the tissues feel harder than normal, presenting erosions on a shrunken and wrinkled surface. Thus, herpes is associated with much œdema and subsequently induration; condylomata have an acute onset followed by disseminated erosions—these data may mislead, but after the lapse of several days the error is corrected. This secondary syphilide, coming on simultaneously with menstruation, is especially liable to be mistaken for menstrual herpes. The diagnosis is always corrected by the subsequent course. I have seen mild acute syphilides oftener mistaken for herpes than vice versa. I recollect cases of this kind in which, after some days of observation in the hospital, the mistaken diagnosis was corrected, then being treated with mercurials, recovery speedily followed. On the labia majora error of this kind is hardly possible. I admit there may be another mode of interpreting these pseudo-herpetic condylomata, namely, that genuine herpes, *e. g.*, menstrual herpes, like traumatic inflammation, leads to the deposition of syphilitic matter. I commend this question to the attention of medical inspectors, but shall not here attempt its solution. Herpes I have never seen an initial syphilitic symptom. It is known that F. v. Hebra was one of the first who, for good reasons, clinically differentiated herpes labialis and progenitalis from zoster, whilst von Bärensprung still conceived them as being rudimentary forms of zoster. The reasons which have since always been advanced in favor of this differentiation apply well enough to man. Even respecting this question, the study of herpes vulvæ will guard against extreme views. Two facts in the herpes of females evidently prove that the transition from herpes progenitalis to zoster genitalis does occur, namely the occurrence of "*confluent herpes*" (Fournier, Bruneau), which thus far has been described as occurring

only in women, and again, *the greater areal distribution of herpes vulvæ*. A great variability characterizes the "confluent herpes" described by Bruneau, but the extensive distribution exceeding that of simple herpes is common to all forms of it; besides, before and during the eruption there are more or less constitutional disturbance, much nervous distress (rectal and vesical tenesmus, ovarian hyperæsthesia, hyperæsthesia, and eventually anæsthesia in the affected cutis, neuralgias, etc.), and, finally, almost without exception, the genital organs are congested and even inflamed. I am sure these herpes are in part analogous to that form described by Mauriac as *herpès neuralgique*, and in part to true zoster, and not being altogether distinguishable from herpes vulvæ, they are the connecting-link between herpes progenitalis and zoster genitalis. I, like Greenough, hold Mauriac's neuralgic herpes to be a true zoster.

Let us now consider the areal distribution of herpes vulvæ. In men, herpes rarely affects the penile cutis, and is scarcely ever found on the scrotum and thighs, but, as is known, is usually limited to the glans penis. In man, the eruption almost invariably corresponds with the course of the ramus dorsalis penis, a branch of the pudic nerve, and indeed generally a peripheral branch, more rarely a branch given off in the course of the nerve. The parts affected in the order of frequency, as given by Greenough, will be generally accepted, are the sulcus præputialis, the lamina interior præputialis, the glans, margo præputialis, and cutis penis. In women this is about as follows: labia minora, præputium clitoridis, labia majora, clitoris, introitus vaginæ et carunculæ myrtiformes, perineum, regio analis, plica genito-cruralis, mons Veneris, mucosa analis, portio vaginalis, vagina (portio media). Here it is evident that besides the ramus dorsalis clitoridis a series of other nerves need be taken into account:

- | | | |
|---------------|---|----------------------------------|
| XII. Dorsalis | } | nerv. ileo-hypogastricus. |
| I. Lumbalis | | ram. abdominalis; ram. labialis. |
| II. Lumbalis | } | nerv. genito-cruralis. |
| II. Lumbalis | | —nerv. genito-cruralis. |
| II. Sacralis | } | nervus pudendus. |
| III. Sacralis | | ram. pud. sup. dorsal. clit. |
| IV. Sacralis | | ram. pud. inf. perinei. |
| | | ram. hemorrhoidalis inf. |

Much importance has been attached to the fact that in man, contrary to unilateral zoster, this herpetic eruption is symmetrical, and at least crosses the median line. But if we take into account that both ram. dors. penis through which originate the herpetic eruptions almost extend to the median line of the body, and that both communicate with the sympathetic on the penis, we shall not be surprised. In woman, the union of the body being incomplete in the genital sphere, the case is different. But even then the occurrence of herpes is symmetrical, though in the

great majority of cases it is unilateral, the eruption crossing the median line when organs, such as the præputium clitoridis, the perinæum, the portio vaginalis, etc., are attacked, which are unsymmetrical. In the plica genito-cruralis, and in the mons Veneris, I have only seen a unilateral herpetic eruption representing a rudimentary zoster, so that also in this respect female herpes is a connecting link between typical herpes and zoster.

It may not on this account be without interest to briefly elucidate several other points of the supposed difference existing between herpes and zoster.

Greenough as well as *Hebra* (B. I., p. 309) asserts that pain never accompanies herpes progenitalis as is the case with zoster. According to my experience, this is incorrect; both in men and women. Not always, but often pain not only accompanies the development of the exanthem, but usually precedes the eruption by one or two days. I have very frequently observed "herpes simplex vulvæ" with pain; in "confluent herpes" (Bruneau), moderate pain is not only common, but neuralgic pains are the rule.

Finally, the circumscribed character of herpes progenitalis and labialis corresponding to the areal distribution of a nerve terminal has been looked upon by some authors as peculiar, because zoster is usually distributed over the entire course of a nerve. This, however, is due to the fallacious view entertained that zoster graphically maps out the cuticular distribution of a nerve, in an exaggerated degree. Even in those cases where the areal distribution is very great, and numerous successive eruptions roughly mark the nerve course, a complete series of cuticular areas are left unaffected, though notoriously supplied by the same cuticular nerves. The sensitive cuticular areas are not sharply defined, but merge into each other by indistinguishable gradations, and the terminal nervous distribution is similar, and never, not even the smallest cuticular nervous area is totally affected, after the manner of an eczema.

Despite the attachment of zoster to the course of special spinal nerves in general, I have been more impressed by the apparent constant *relative limitation* of the exanthem. It would be worth while investigating whether disturbances of sensibility are common to the nervous distribution, or limited like the exanthem. *The limitation of zoster to certain points of the terminal distribution of nerves is its characteristic mark*, and from this point of view I would call herpes progenitalis a rudimentary form of zoster, in the sense of von Bärensprung.

Naturally, conditions must be present, which is the case with the trifacial and pelvic nerves, that favor the bilateral development and relapsing of herpes; and it seems quite plausible to assume, with von Bärensprung, that the subordinate peripheral ganglia, of which these nerves

have many, represent the foci of *those* herpetic eruptions. In this respect, it would seem important to ascertain with greater statistical exactitude, in the future, the period of incubation of herpes progenitalis.

In men, the interval of time elapsing between the occurrence of the cause (coition) of herpes and the eruption being quite determinable, a legitimate conclusion may be formed as to the greater or less physiological separation¹ of involved ganglia.

Judging by the clinical material at my command, the eruption oftenest occurs on the second or third day, and not on the first day after coition. Clinically, nothing speaks so strongly for ganglionic implication in zoster and herpes progenitalis as the subsequent eruption of the exanthem, and period of incubation, the exciting cause of necessity overcoming many obstacles to effect the result. In men, herpes progenitalis is usually found over the course of the ramus dorsalis penis, which forms connections with the sympathetic, and the large dorsal vein being, according to Henle, almost the only afferent circulatory conduit during penile erection (the venæ prof. penis being compressed by the perinei prof. inf. muscles), may explain the pathogenesis of herpes progenitalis, in a manner similar to that made probable for herpes labialis febrilis by Gerhardt, namely, compression of the nerves.

¹ By physiological separation (*physiologische Entfernung*) I understand more or less numerous interspersions of ganglionic centres in the course of a nerve.



